

REMARKS

Claims 12, 17, 18, 20, 22, 24, 26, 28, 30, and 32 are pending in this application. Applicants respectfully request reconsideration and prompt allowance of the pending claims in view of at least the following remarks.

I. Rejections Under §103(a)

A. Rejection Over Noguchi, Slykhouse, Kitano, and Matsumoto

The Office Action rejects claims 12, 17, 20, 22, 24, 26, 28 and 32 under 35 U.S.C. §103(a) as having been obvious over U.S. Patent Application Publication No. 2003/0143370 to Noguchi et al. (hereinafter "Noguchi") in view of U.S. Patent No. 3,773,573 to Slykhouse and U.S. Patent No. 5,861,214 to Kitano et al. (hereinafter "Kitano"), as evidenced by product data for Matsumoto Microsphere F series foamed resins (hereinafter "Matsumoto"). The rejection is respectfully traversed.

Noguchi fails to disclose and would not have rendered obvious "as the foamed resin, there is used a material in which the weight of a gas included in the foamed resin when stored at 40°C for 4 weeks is 8% to 12% of the weight of the foamed resin and in which a weight decrease ratio of the gas included in the foamed resin when stored at 40°C for 4 weeks is 30% or less with respect to the weight of the gas before stored," as recited in claim 1. The Office Action acknowledges that Noguchi fails to disclose details about the foamed resin. However, the Office Action asserts that Slykhouse cures the deficiencies of Noguchi.

Slykhouse fails to cure the deficiencies of Noguchi. The Office Action asserts that Slykhouse discloses the recited feature of "a material in which the weight of a gas included in the foamed resin ... is 8% to 12% (11%) of the weight of the foamed resin" by disclosing the incorporation of 10-25 parts by weight of a liquid (isobutane). In response to the arguments presented in the May 17 Request for Reconsideration, the Office Action asserts that isobutane is a liquid above -11.7°C and that Slykhouse discloses that the expanded spheres have "a thin

transparent wall and a gaseous center (col. 2, lines 59-63) such that the expanded spheres are suitable for use in the mixture (col. 3, lines 55-56). However, col. 3, lines 49-53, of Slykhouse discloses that the liquid isobutane is 10-25 parts by weight which can then be expanded to hollow gas-filled spheres. Thus, Slykhouse only discloses the parts by weight of the liquid form of the isobutane and not the gaseous parts by weight when expanded to hollow gas-filled spheres. Accordingly, Slykhouse fails to disclose "a material in which the weight of a gas included in the foamed resin...is 8% to 12% of the weight of the foamed resin, as recited in claim 1.

Additionally, the Office Action's basis for the combination of Slykhouse with Noguchi and Kitano is in error. The Office Action asserts that Slykhouse discloses a gas content of 10-25% (col. 3, line 53) that is suitable for use in 2-200 μm diameter foamed resin spheres made of methyl methacrylate-acrylonitrile copolymer comprising 10-90% acrylonitrile (col. 3, lines 26-29 and 64-66). However, as argued above, Slykhouse does not disclose a content of gas but instead discloses a content of isobutane liquid. Additionally, with respect to the weight percent of isobutane, the Office Action's assertion that such a weight percent is used with respect to foamed resin spheres made of methyl methacrylate-acrylonitrile copolymer comprising 10-90% acrylonitrile is in error. The disclosure of Slykhouse states that the weight percent of isobutane is used specifically with a copolymer comprising 10-35 weight% acrylonitrile or preferably, 25-35% acrylonitrile (col. 3, lines 40-53), which is outside the currently claimed range of 60 wt% or more. In the August 11 Rejection, the Office Action further asserts that Slykhouse discloses 10-90 wt% acrylonitrile for use in foamed resin (col. 3, lines 26-29) (and thus, acrylonitrile compositions above 60% were known in the art at the time of invention). The Office Action goes on to assert that all foamed resin shells require a blowing agent (e.g., the disclosed isobutane) (col. 2, lines 4-11, and 59-61, and col. 3, lines 49-52). However, the only references to isobutane as a blowing

agent in Slykhouse are in reference to a acrylonitrile composition that is well below the quoted range of 10-90%. Instead, at col. 3, lines 4-8 and col. 3, lines 45-52 of Slykhouse, the wt% of acrylonitrile is well below the 60% or more, claimed range. The Office Action asserts that nothing in Slykhouse limits the use of isobutane to a different wt% of acrylonitrile due to the broad disclosure (i.e., 10-90%), discussed above. However, Slykhouse fails to disclose that the isobutane is used in any other instance than those provided. Additionally, Slykhouse discloses a very broad range of wt% acrylonitrile without support for ranges outside of that described in col. 3, lines 40-60. Thus, the broad range in Slykhouse does not support the narrow assertions for the higher range. Therefore, Slykhouse fails to cures the deficiencies of Noguchi and Kitano, as evidenced by Matsumoto fails to cure the deficiencies of Noguchi and Slykhouse.

For at least these reasons, claim 12 is patentable over Noguchi, Slykhouse, Kitano, and Matsumoto. Further, claims 17, 20, 22, 24, 26, 28 and 32 are patentable for at least the same reasons, as well as for the additional features recited therein. Accordingly, Applicants respectfully request withdrawal of the rejection.

B. Rejection Over Noguchi, Slykhouse, Kitano, Matsumoto, Ahmed, and Gehlsen

The Office Action rejects claim 18 under 35 U.S.C. §103(a) as having been obvious over Noguchi in view of Slykhouse and Kitano, as evidenced by Matsumoto, and further in view of "Comparative Disposition of Acrylonitrile and Methacrylonitrile: Quantitative Whole-Body Autoradiographic Studies in Rats" by Ahmed et al. (hereinafter "Ahmed") and U.S. Patent No. 6,103,152 to Gehlsen et al. (hereinafter "Gehlsen"). The rejection is respectfully traversed.

Ahmed and Gehlsen, alone or in combination, fail to cure the deficiencies of Noguchi, Slykhouse, Kitano, and Matsumoto. Thus, claim 18 is patentable for at least the same reasons

as claim 12, as well as for the additional features recited therein. Accordingly, Applicants respectfully request withdrawal of the rejection.

C. Rejection Over Noguchi, Slykhouse, Kitano, Matsumoto, and Nagata

The Office Action rejects claim 30 under 35 U.S.C. §103(a) as having been obvious over Noguchi in view of Slykhouse and Kitano, as evidenced by Matsumoto, and further in view of U.S. Patent No. 6,440,185 to Nagata et al. (hereinafter "Nagata"). The rejection is respectfully traversed.

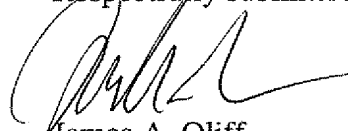
Nagata fails to cure the deficiencies of Noguchi, Slykhouse, Kitano, and Matsumoto. Thus, claim 30 is patentable for at least the same reasons as claim 12, as well as for the additional features recited therein. Accordingly, Applicants respectfully request withdrawal of the rejection.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff

Registration No. 27,075

Michelle K. Windom

Registration No. 65,466

JAO:MQW/hs

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OLIFF & BERRIDGE, PLC

P.O. Box 320850

Alexandria, Virginia 22320-4850

Telephone: (703) 836-6400

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